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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,272	06/20/2003	Yasushi Enokido	MIT 10282 US	6440
21403	7590	05/24/2005	EXAMINER	
STEVEN J WEISSBURG 238 MAIN STREET SUITE 303 CAMBRIDGE, MA 02142			MAI, NGOCLAN THI	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 05/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/601,272

Applicant(s)

ENOKIDO, YASUSHI

Examiner

Ngoclan T. Mai

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. Claims 2-6, 8-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Novich et al.

Novich et al disclose a highly loaded, pourable suspension of particulate material for forming sintered material article having volume fraction of at least 55% by volume comprising submicron and/or narrow size range metal particles having particle size of less than 1 micron, col. 5, line 65 to col. 6, line 53. The metal powder used can be spherical, col. 3, lines 35-36. The slurries taught having high solid load, i.e. at least 55% by volume reads on the claimed at sediment density of least 50%.

Regarding claims 2 and 5, Novich et al teach utilizing solvent such as water and alcohol and dispersant less than 10 wt% (see all of the example) to disperse the metal powder, see col. 6, line 37- col. 7, line 41.

Novich et al teach using metal powder including silver, col. 6, lines 6-9. Since silver taught by Novich et al has the same shape and size as the metal powder taught by the applicant, (applicant paragraph [0040]), it would inherently has the claimed tap density.

Regarding claim 3, the silver-containing powder taught by Hampden-Smith et al. inherently has the claimed tap density because the powder taught by Hampden-Smith the same composition as the applicant, i.e., silver, (applicant paragraph [0040]).

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or

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substantially identical processes, a prima facie case of either anticipation or obviousness has been established, In re Best, 195 USPQ 430, 433 (CCPA 1977). 'When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.' In re Spada, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the prima facie case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. In re Best, 195 USPQ 430, 433 (CCPA 1977)."

Regarding claims 11, Novich et al teach the claimed limitation in col. 5, lines 35+.

### ***Claim Rejections - 35 USC § 103***

2. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Novich in view of Kodas et al.

The difference between the claim and Novich et al is that Novich et al do not teach mixing by the slurry by ultrasonic vibration.

Kodas et al teach that it is known to those in the art that micrometer-sized particles often form soft agglomerates as a result of their relatively high surface energy (compared to larger particles) and it is also known to those skilled in the art that soft agglomerates may be dispersed easily by treatments such as exposure to ultrasound in a liquid medium, col. 33, lines 19-38.


It would have been obvious to one of ordinary skill in the art at the time the invention was made to mix the slurry containing micron-sized silver-containing particles in organic solvent taught by Novich et al. by ultrasonic vibration as this taught to improve the dispersability of the particles by Kodas.

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3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoctan T. Mai whose telephone number is (571) 272-1246. The examiner can normally be reached on 9:30-6:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Ngoctan T. Mai  
Primary Examiner  
Art Unit 1742

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